

AMENDMENT IN THE CLAIMS

Please amend claims 1, 11, 13-15, 17, 18 and 20, cancel claim 5 without prejudice or disclaimer as to their subject matter, and add new claims 21 through 46, to read as follows:

1. (Currently Amended) A closed injection moulded closure, comprising:  
a first closure part;  
a second closure part; and  
two connecting elements connected to the first closure part and the second closure part by ~~means of~~ two pairs of hinge connections, each said pair of hinge connections having a first hinge connection and a second hinge connection, each said first hinge connection connecting upper sides of said connecting elements to said first closure part, each said second hinge connection connecting bottom sides of said connecting elements to said second closure part, each said pair of hinge connections making a first angle ( $\phi$ ) with one another, ~~said two pairs of hinge connections and~~ defining ~~planes~~ a plane ~~respectively, the planes defined by said two pairs of hinge connections which~~ make ~~making~~ a second angle ( $\omega$ ) with one another, wherein, in a closed position of the closure, the planes are inclined relative to a closure axis[[,]] ~~in such a way that~~ and the two connecting elements and the two pairs of hinge connections are accessible in the mould from the inside of the closure and from the outside of the closure and can be removed from the mould[[,]];  
said closed injection moulded closure being free from a main hinge connection between said first closure part and said second closure part.

1           2.(Previously Amended)     The closed injection moulded closure according to claim 1,  
2     further comprised of the first and the second closure parts, in the closed position of the closure,  
3     functionally separated from one another by at least one gap.

1           3. (Previously Amended)     The closed injection moulded closure according to claim 1,  
2     further comprised of the first and the second closure parts, in the closed position of the closure,  
3     connected by at least one coupling element which is destroyed or removed when the closure is  
4     opened for the first time.

1           4.(Previously Amended)     The closed injection moulded closure according to claim 3,  
2     wherein said coupling element is a web or a tear-off lip.

5. (Cancelled)

1           6. (Previously Amended)     The closed injection moulded closure according to claim 1,  
2     further comprised of the connecting elements in an opened position having no geometric  
3     deformations relative to an injection moulded state.

1           7.(Previously Amended)     The closed injection moulded closure according to claim 1,  
2     wherein an opening angle ( $\alpha$ ) between the first closure part and the second closure part in an open  
3     position of the closure is 150° to 180°.

8.(Previously Amended) The closed injection moulded closure according to claim 1, wherein the relationship among an opening angle ( $\alpha$ ) between the first closure part and the second closure part in an open position of the closure, the first angle ( $\omega$ ) and the second angle ( $\phi$ ) is given by the following formula:

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right].$$

9. (Previously Amended) The closed injection moulded closure according to claim 1, further comprised of the connecting elements being integrated into outer contours of the first and the second closure parts.

10. (Previously Amended) The closed injection moulded closure according to claim 1, wherein the first closure part is adjacent to the second closure part and the first and the second closure parts are actively connected to a container, at least one closure part being detachably and actively connected to the container.

11.(Currently Amended) The closed injection moulded closure according to claim 1, each of said connecting elements having a shorter edge and a longer edge, said shorter edge being ~~close~~ closer to an apex of said first angle ( $\phi$ ) than said longer edge and being pressure-resistant, said

4 longer edge ~~lengthen~~ lengthening elastically and reversibly under a tensile stress.

1 12.(Previously added) The closed injection moulded closure according to claim 11, further  
2 comprised of said longer edge being of a three-dimensional curvature.

1 13. (Currently Amended) The closed injection moulded closure according to claim 1, further  
2 comprised of said two pairs of hinge connections being film hinge connections.

C 1 14. (Currently Amended) The closed injection moulded closure according to claim 1, further  
2 comprised of said ~~second~~ first closure part having at least two stable positions ~~of an~~ including at least  
3 one open position and the closed position.

1 15. (Currently Amended) The closed injection moulded closure according to claim 1, wherein  
2 said ~~second~~ first closure part has an open position, the closed position and at least one intermediate  
3 open position

1 16. (Previously added) The closed injection moulded closure according to claim 3, further  
2 comprised of said coupling element having a predetermined breaking point.

1 17.(Currently Amended) The closed injection moulded closure according to claim 1, said two  
2 connecting elements connected to each other by ~~means of~~ a film hinge connection.

1 18. (Currently Amended) The closed injection moulded closure according to claim 1, further  
2 comprised of said ~~second~~ first closure part having a tubular element on an inner side of said first  
3 closure part, said tubular element corresponding to an opening of the container, said tubular element  
4 sealing the opening of the container, said tubular element having an edge thickened by ~~means of a~~  
5 bead.

C 1 19. (Previously added) The closed injection moulded closure according to claim 1, further  
2 comprising means for partially stiffening the first and the second closure parts.

1 20. (Currently Amended) The closed injection moulded closure according to claim 1, further  
2 comprised of said ~~second~~ first closure part having a catch for preventing unintentional opening of  
3 the closure.

1 21. (New) A closure for a container, comprising:  
2 a first closure part;  
3 a second closure part to be placed on the container, said first closure part opening and closing  
4 the contained by moving relative to said second closure part;  
5 at least two connecting elements connecting said first closure part and said second closure  
6 part, each said connecting element having a first side separated from a second side, by an

1 intermediate third side spaced-apart from an intermediate fourth side, said fourth side being longer  
2 than said third side; and

3 two pairs of hinge connections, each said pair of hinge connections comprising a first hinge  
4 connection and a second hinge connection, said first side of each said connecting element connected  
5 to said first closure part via said first hinge connection, said second side of each said connecting  
6 element connected to said second closure part via said second hinge connection, wherein in a closed  
7 position of the closure each said first hinge connection is closer to an axis of closure than are said  
8 second hinge connection, with said first closure part assuming at least two stable positions and  
9 unstable positions between said at least two stable positions and with the two connecting elements  
10 and the two pairs of hinge connections being accessible in a mould from the inside of the closure and  
11 from the outside of the closure and being from the mould;

12 said closure being free from a main hinge connection between said first closure part and said  
13 second closure part.

1 22. (New) The closure of claim 21, comprised of said two connecting elements and the two  
2 pairs of hinge connections being accessible in the mould from the inside of the closure and from the  
3 outside of the closure.

1 23. (New) The closure of claim 21, wherein said third sides of said connecting elements are  
2 pressure-resistant.

1           24. (New) The closure of claim 21, wherein, in a closed position of the closure, each said  
2           connecting element has a curved outer contour.

1           25. (New) The closure of claim 21, wherein said at least two connecting elements are  
2           integrated into an outer contour of the closure.

1           26. (New) The closure of claim 21, wherein, in a closed position of the closure, said two  
2           connecting elements and said two pairs of hinge connections are in approximately stress-free states.

d 1           27. (New) The closure of claim 21, wherein torsional rigidities of said third sides are higher  
2           than torsional rigidities of said fourth sides.

1           28. (New) The closure of claim 21, comprising a coupling element coupling the first closure  
2           part and the second closure part, said coupling element being destroyed when the first closure part  
3           is separated from said second closure part for the first time.

1           29.(New) The closure of claim 21, comprising an auxiliary connection between said two  
2           connecting elements.

1           30. (New) The closure of claim 21, wherein said second closure part has a tubular element  
2           on an inner side of said second closure part, said tubular element has an edge thickened by a bead,

1 and said tubular element has a shape corresponding to an opening of the container to act as a seal  
2 when in a closed position.

1 31. (New) The closure of claim 21, further comprising means for partially stiffening the first  
2 and the second closure parts.

1 32. (New) The closure of claim 21, further comprising a catch for preventing unintentional  
2 opening of the closure.

1 33. (New) The closure of claim 21, wherein an opening angle between the first closure part  
2 and the second closure part in an open position of the closure is 150° to 180°.

1 34. (New) The closure of claim 21, wherein a relationship among an opening angle ( $\alpha$ ), a first  
2 angle ( $\phi$ ) and a second angle ( $\omega$ ) is given by the following formula:

3

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right],$$

4 where said opening angle ( $\alpha$ ) is an angle between the first closure part and the second closure  
5 part in an open position of the closure;

6 said first angle ( $\phi$ ) is defined by said first and said second hinge connections of each said pair  
7 of hinge connections; and



8           said second angle ( $\omega$ ) is an angle made by two planes, each of said two planes defined by  
9           each said pair of hinge connections.

1           35. (New) A closed injection moulded process, comprising:  
2           simultaneously moulding in a closed position, an entirety of a closure comprised of a first  
3           closure part mated in a closed position against a second closure part, and two connecting elements  
4           spaced-apart by an intermediate gap, connected to the first closure part and the second closure part  
5           by two pairs of hinge connections, each said pair of hinge connections having a first hinge  
6           connection and a second hinge connection, each said first hinge connection joining upper sides of  
7           said connecting elements to said first closure part, each said second hinge connection joining bottom  
8           sides of said connecting elements to said second closure part, each said pair of hinge connections  
9           making a first angle ( $\phi$ ) with one another, and defining a plane, the planes defined by said two pairs  
10          of hinge connections making a second angle ( $\omega$ ) with one another, wherein, in the closed position  
11          of the closure, the planes are inclined relative to a closure axis, with the two connecting elements  
12          and the two pairs of hinge connections being accessible in the mould from the inside of the closure  
13          and from the outside of the closure; and  
14          removing the closure from the mould.

1           36. (New) The process of claim 35, comprised of forming an opening angle between the first  
2           closure part and the second closure part to occur between approximately  $150^\circ$  to  $180^\circ$  while said first  
3           closure part is displaced from said closed position to an open position of the closure.

1           37. (New) The process of claim 35, wherein a relationship among an opening angle ( $\alpha$ ), said  
2           first angle ( $\phi$ ) and said second angle ( $\omega$ ) is given by a formula of:

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right], \text{ where}$$

3           said opening angle ( $\alpha$ ) is an angle between the first closure part and the second closure part  
4           while said first closure part is rotatably displaced from said closed position to an open position of  
5           the closure.

1           38. (New) A closure for a container, comprising:  
2           a lower closure part oriented to engage an opened end of the container;  
3           an upper closure part disposed to assume at least two spatially defined and stable positions  
4           relative to said lower closure part; and  
5           two connecting elements spaced-apart by an intermediate gap, joining said lower closure part  
6           and said upper part by two pairs of hinge connections, each said pair of hinge connections having  
7           a first hinge connection and a second hinge connection, each said first hinge connection joining  
8           upper sides of said connecting elements to said upper closure part, each said second hinge connection

9 joining bottom sides of said connecting elements to said lower part, with first angle ( $\phi$ ) occurring  
10 between said first and said second hinge connections of each said pair of hinge connections and each  
11 of said pair of defining a plane with a second angle ( $\omega$ ) occurring between each said plane, with each  
12 said plane being inclined relative to a closure axis of said closure, the two connecting elements and  
13 the two pairs of hinge connections being accessible in a mould from the inside of the closure and  
14 from the outside of the closure and being removable from the mould;

15 said closure being free from a main hinge connection between said first closure part and said  
16 second closure part.

1 39. (New) The closure of claim 38, comprised of said upper closure part forming an opening  
2 angle with said lower closure part between approximately 150° to 180° while said upper closure part  
3 is displaced from a closed position mating with said lower closure part, to an open position of the  
4 closure.

1 40. (New) The closure of claim 38, wherein a relationship among an opening angle ( $\alpha$ ), said  
2 first angle ( $\phi$ ) and said second angle ( $\omega$ ) is given by a formula of:

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right], \text{ where}$$

3           said opening angle ( $\alpha$ ) is an angle between the first closure part and the second closure part  
4   while said first closure part is rotatably displaced from said closed position to an open position of  
5   the closure.

1           41. (New) A closure for a container, comprising:

2           a lower closure part oriented to engage an open end of the container;

3           an upper closure part disposed to mate with said lower closure part, along a peripheral  
4   junction that forms a demarcation between said lower closure part and said upper closure part when  
5   said closure is in a closed position of said closure, and joined to said lower closure part by at least  
6   one frangible element traversing said peripheral junction while said closure maintains a virginity of  
7   said closed position; and

8           two connecting elements spaced-apart by an intermediate gap movably joining said lower  
9   closure part and said upper part by two pairs of hinge connections, each said pair of hinge  
10   connections having a first hinge connection and a second hinge connection, each said first hinge  
11   connection joining upper sides of said connecting elements to said upper closure part, each said  
12   second hinge connection joining bottom sides of said connecting elements to said lower part, with  
13   a first angle ( $\phi$ ) occurring between said first and said second hinge connections of each said pair of  
14   hinge connections and each of said pair of hinge connections defining a plane with a second angle  
15   ( $\omega$ ) occurring between each said plane, with each said plane being inclined relative to a closure axis  
16   of said closure, and the two connecting elements and the two pairs of hinge connections being  
17   accessible in a mould from the inside of the closure and from the outside of the closure, with the

18 closure being removable from the mould.

1 42. (New) The closure of claim 41, comprised of an opening angle formed between the first  
2 closure part and the second closure part to extend between approximately 150° to 180° while said  
3 first closure part is displaced from said closed position to an open position of the closure.

1 43. (New) The closure of claim 41, with said closure providing a relationship among an  
2 opening angle ( $\alpha$ ), said first angle ( $\phi$ ) and said second angle ( $\omega$ ) given by a formula of:

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right], \text{ where}$$

3 said opening angle ( $\alpha$ ) is an angle between the first closure part and the second closure part while  
4 said first closure part is rotatably displaced from said closed position to an open position of the  
5 closure.

1 44. (New) A closed injection moulded process, comprising:  
2 simultaneously moulding in a closed position, an entirety of a closure comprised of a first  
3 closure part mated in a closed position against a second closure part along a peripheral junction that  
4 forms a demarcation between said lower closure part and said upper closure part, and joined to said  
5 lower closure part by at least one frangible element traversing said peripheral junction while said

6 closure maintains a virginity of said closed position; and

7 two connecting elements spaced-apart by an intermediate gap, connected to the first closure  
8 part and the second closure part by two pairs of hinge connections, each said pair of hinge  
9 connections having a first hinge connection and a second hinge connection, each said first hinge  
10 connection joining upper sides of said connecting elements to said first closure part, each said second  
11 hinge connection joining bottom sides of said connecting elements to said second closure part, each  
12 said pair of hinge connections making a first angle ( $\phi$ ) with one another, and defining a plane, the  
13 planes defined by said two pairs of hinge connections making a second angle ( $\omega$ ) with one another,  
14 wherein, in the closed position of the closure, the planes are inclined relative to a closure axis, with  
15 the two connecting elements and the two pairs of hinge connections being accessible in the mould  
16 from the inside of the closure and from the outside of the closure; and

17 removing the closure from the mould.

1 45. (New) The process of claim 44, comprised of forming an opening angle between the first  
2 closure part and the second closure part to occur between approximately  $150^\circ$  to  $180^\circ$  while said first  
3 closure part is displaced from said closed position to an open position of the closure.

1 46. (New) The process of claim 44, wherein a relationship among an opening angle ( $\alpha$ ), said  
2 first angle ( $\phi$ ) and said second angle ( $\omega$ ) is given by a formula of:

$$\phi = 2 \cdot \arctan \left[ \frac{\sin(\alpha / 2)}{1 - \cos(\alpha / 2)} \cdot \sin(\omega / 2) \right], \text{ where}$$

- 3      said opening angle ( $\alpha$ ) is an angle between the first closure part and the second closure part while  
4      said first closure part is rotatably displaced from said closed position to an open position of the  
5      closure.

